RSOI and the IBCT -

Relevancy in Future Deployment Operations

A Monograph

by

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Abstract

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In October 1999, General Eric K. Shinseki, Chief of Staff of the Army (CSA), announced the establishment of an interim force, known as the Interim Brigade Combat Team (IBCT), to fill a perceived void in force capability and strategic responsiveness. The expectation of the IBCT is that it is totally air deployable anywhere in the world within 96-hours of the first aircraft taking off. The IBCT Operations and Organization (O&O) design postulates the IBCT to employ immediately upon arrival. This is accomplished using several innovations in technology as well as conceptual.

These new expectations demand a serious look at the method of deployment for the unit and the deployment system in total. In order for the IBCT to employ upon arrival it must deploy in combat configuration. Historically, units divide into deployable pieces, to maximize the limited strategic lift assets, and reconfigure in the theater of operations. Examining the deployment process to understand the complete system and then focus specifically on the last leg of the four-legged process – port-to-foxhole.

Port-to-foxhole, also known as Reception, Staging, Onward Movement and Integration (RSOI), is the process to piece together the deploying pieces into combat effective units. RSOI takes from three to nine days depending on the theater and size unit. The question is whether the new IBCT innovations can eliminate all or part of RSOI. In an attempt to answer the question, this monograph analyzes RSOI functions and how the affects of the IBCT innovations. Finally, it summarizes the previous analysis and presents several recommendations for the logistical community's consideration.

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Introduction

Its an early winter morning and you look out the window to see that it has snowed at least 10 inches and you are going no where today. So far, the vacation at the mountain resort is everything you expected. While everyone is still asleep, you decide to have a cup of coffee and plan out what the rest of the day will entail, since the family is obviously not going very far. Looking in the closet, you find several games and five puzzles. The puzzles look very enticing and range from 250 to 1000 pieces. Unable to pick the best, you take all five puzzles out and set them on the dining room table. Waiting for them to awake, you go into the kitchen to cook breakfast. While there, you hear a commotion in the dining area. As you walk around the corner, you see your five year old on the floor in a pile of puzzle pieces. He has taken the five puzzles, opened the boxes and dumped the puzzle pieces over his head – what a mess! You pickup the pile of pieces and dump them on the table and decide to wait for everyone else to help with this mess. After breakfast, the family begins the process of sorting the pieces. Part way through the sorting process, your teenager gets bored and opts to start putting together some of the puzzles. With the pieces sorted into the correct piles, the rest of the family begins helping put all five puzzles together. After several hours you finish. Its unbelievable that you were able to get things in order and put back together.

Reception, Staging, Onward Movement, and Integration (RSOI) is the military process for converting the pile of puzzle pieces (deploying pieces of equipment) into their original form (combat ready units). RSOI, as defined in *Joint Publication 4-01.8, Joint Tactics, Techniques and Procedures for Joint Reception, Staging, Onward Movement,*

and Integration, is "the essential process that transitions deploying forces, consisting of personnel, equipment, and materiel arriving in theater into forces capable of meeting the combatant commanders operational requirements."[1] The Army defines RSOI in *Field Manual 100-17-3, Reception, Staging, Onward Movement, and Integration*, as the process to "transform arriving personnel and materiel into forces capable of meeting operational requirements."[2] Simply stated, RSOI pieces back together the deploying units into combat ready forces. However, one of the problems associated with RSOI is the length of time to complete the process.

For example, during the Gulf War, the average time for a battalion to complete the RSOI process was ten days with a division taking almost twenty days.[3] RSOI, while very good at converting pieces of equipment into ready combat forces, requires a large amount of time. The time that U.S. forces use to reconfigure is also time for the enemy to build combat power. The speed and efficiency at which RSOI happens has the potential to affect the outcome of future operations.

Speed played a major role in the Gulf War as well as the operation in Kosovo. It took over sixty days for the 24th Infantry Division (Mechanized) out of Fort Stewart, Georgia, to receive its unit equipment in Southwest Asia (SWA).[4] In Kosovo, the National Command Authority (NCA) faced similar challenges in deciding to deploy airborne forces against armored units to stop the atrocities or to deploy a heavy force and

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[1] U. S. Department of Defense, *Joint Publication 4-01.8 Joint Tactics, Techniques, and Procedures for Joint, Reception, Staging, Onward Movement, and Integration* (Washington, DC: June 13, 2000), 1-3.
[2] U.S. Army, *Field Manual 100-17-3 Reception, Staging, Onward Movement, and Integration* (1999), 1-1.
[3] LTG (R) William G. Pagonis and Jeffrey L. Cruikshank, *Moving Mountains: Lessons in Leadership and Logistics from the Gulf War* (Boston: Harvard Business School Press, 1992), 119.
[4] James K. Matthews and others, *So Many, So Much, So Far, So Fast : United States Transportation Command and Strategic Deployment for Operation Desert Shield/Desert Storm* (Washington, DC: Joint

possibly use it as a counteroffensive force.[5] The Defense Advanced Research Projects Agency (DARPA) also "identified key limitations in rapid-reaction capabilities" and they are exploring a variety of options to remove the limitations.[6] Despite these well-known acknowledgements, the problem still exists nearly ten years after the Gulf War.[7]

In October 1999, General Eric K. Shinseki, Chief of Staff of the Army (CSA), announced the establishment of an interim force to fill this void.[8] He expects that the interim force, known as the Interim Brigade Combat Team (IBCT), will deploy, by air, to any location in the world within 96 hours of the first aircraft taking off. Additionally, he expects the unit to have the capability to employ, into the fight, immediately upon arrival.[9] The CSA summarizes his intent by defining the IBCT in 'The Army Vision' as "a new Army organization intended to improve the Army's capability for strategic responsiveness."[10]

His vision for the IBCT presents a complex dichotomy. On one end, RSOI in the Gulf War took up to twenty days and on the other, the CSA wants the force to employ upon arrival. The issue is whether, in an attempt to meet the CSA's guidance, the IBCT can eliminate the need for RSOI.

Chapter one provides background information by describing the need for change (environment and force structure), articulating the complexity of the force projection

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History Office of the Chairman of the Joint Chiefs of Staff and Research Center U.S. Transportation Command, 1996), B-1 thru B-4.

[5] John Matsumura and others, *Lightning over Water: Sharpening America's Light Forces for Rapid Reaction Missions* (Santa Monica: RAND, 2000), 3.

[6] Ibid., 2-9.

[7] Ibid., 7.

[8] General Eric K. Shinseki, *The Army Vision* [Internet] (Department of the Army, October 1, 1999, accessed November 10, 2000); available from http://www.army.mil/armyvision.

[9] U.S. Army, *Interim Brigade Combat Team (IBCT) Organizational and Operational Concept (Final Draft)* (June 30, 2000), Analysis Annex, 1.

system, and reviewing expectations of 'The Army Vision' on force projection. Chapter two explores previous RSOI operations and major force structure changes since WWII. Chapter three identifies key innovations in RSOI since the Gulf War and current RSOI functions. It also examines the IBCT and identifies key innovations, which affect the deployment system, more specifically the RSOI process. Chapter four analyzes the RSOI process through the lens of the IBCT innovations to answer the question: Does the IBCT require RSOI? Finally, it summarizes the previous analysis and presents several recommendations for the logistical community's consideration.

[10] Shinseki,(accessed).

Chapter 1

For the United States, a world power separated from its principal military obligations by thousands of miles of water, strategic mobility is not just important – it is indispensable. The United States must be able quickly to deploy, employ, and supply its combat forces overseas to protect its worldwide security interests. The visible means and determination to project its military power from one continent to another can deter potential adversaries from taking actions hostile to American interests. Timely force projection can also be a stabilizing factor in preventing small crises and wars from becoming large ones.[11]

U.S. Strategic Airlift: Requirements
and Capabilities Report, 1986

Environment

Since the end of the Cold War nearly a decade ago, there have been repeated calls for the United States Army to make major changes, in its roles and missions, and to transform to meet the new global environment.[12] For over five decades, the U.S. Army focused on deterring Soviet and communist aggression through forward presence. Doctrine, force structure, basing, and equipment focused on accomplishing this mission. The Army relied heavily on the forward basing of forces in Europe. Prepositioned and

[11] Jeffrey Record, *U.S. Strategic Airlift: Requirements and Capabilities* (Cambridge: Institute for Foreign Policy Analysis, 1986), 6, National Security Paper: 2. "This study of the requirements for and capabilities of U.S. strategic airlift is one in a series of National Security Papers. The purpose of the series is to identify national security issues of existing or potential importance to the United States and to provide timely analyses for use within the official policy community and in a broader forum outside government."
[12] Brian Bond, *The Pursuit of Victory: From Napoleon to Saddam Hussein* (Oxford: Oxford University Press, 1996), 171-174.

preconfigured stockpiles assisted in the deployment process by allowing units to deploy, prepare the equipment and defeat the enemy on the plains of Europe.[13]

Conventional war in Central Europe is now unlikely and the U.S. faces situations where new states, failed states and regional powers aim to unravel global stability.[14] In the near future, the U.S. Army will most likely not face a well-defined enemy, leaving it to "cope with many potential adversaries, of widely divergent capabilities located all over the world."[15] "The United States (U.S.) national and military strategy is changing dramatically in response to massive global, political and economic turbulence. Tomorrow's Army will be faced with a far more complex world than ever before."[16]

Over 4,000 years ago, Sun Tzu said, "he who occupies the field of battle first and awaits his enemy is at ease; he who comes later to the scene and rushes into the fight is weary."[17] If the army already occupies the field then it can await the enemy but if neither force occupies the field then the objective is to get there first with the greater force. This is the premise of the U.S. force projection army today. After the Gulf War, the U.S. adopted a force projection policy, which requires the U.S. Army to be strategically responsive – able to "get there firstest with the mostest." Strategic responsiveness, as defined in *Field Manual 3-0, Operations*, "requires Army forces that are organized, trained, and equipped for global operations, and [have] commanders and

[13] Matsumura and others, 3.
[14] Ibid., 3.
[15] U.S. Army, *Field Manual 100-17-3 Reception, Staging, Onward Movement, and Integration*, v.
[16] U.S. Army, *TRADOC Pamphlet 525-XXX* [Internet] (accessed October 30, 2000); available from http://www.cascom.lee.army.mil/multi/New_Concepts/Combat_Service_Support_Operational_Concept/1-Combat_Service_Support_Operational_Concept.doc.
[17] Sun Tzu, *Art of War*, trans. Ralph D. Sawyer (Boulder: Westview Press, 1994), 191.

units that are proficient at force projection…[to] generate and sustain maximum combat power at the time and place [the] JFC [Joint Force Commander] requires."[18]

Force Projection System

Power projection is not a new mission, but now its importance is paramount. Recent operations, including Southwest Asia, Somalia, Haiti and Bosnia, identified varying degrees of inefficiency for force closure.[19] "The military element of power projection is force projection, the demonstrated ability to alert, mobilize, deploy rapidly, and operate effectively anywhere in the world."[20] U.S. force projection operations began during the Mexican War with the first ever "major overseas expedition and amphibious assault."[21] General Winfield Scott loaded troops and supplies aboard ships in New Orleans and landed near Vera Cruz invading Mexico and ultimately capturing Mexico City. [22] Since that time the U.S. is continually trying to improve on the process of force projection.

The ability to conduct force projection is essential for a country that desires its team to always fight as visitors. Today, force projection includes a range of operations: mobilization, deployment, employment, sustainment, and redeployment. Figure 1-1, Force Projection,[23] outlines the essential elements within the force projection process. It depicts the process as a sequential operation; however, it is not. While some units are

[18] U.S. Army, *Field Manual 3-0 Operations (D.R.A.G. Edition)* (Fort Leavenworth: 2000), 3-1.
[19] Force Closure, as defined in *JP 01-02, Department of Defense Dictionary of Military and Associated Terms*, is the "point in time when a supported joint force commander determines that sufficient personnel and equipment resources are in the assigned operational area to carry out assigned tasks."
[20] U.S. Army, *Field Manual 3-0 Operations (D.R.A.G. Edition)*, 3-3.
[21] James A. Huston, *The Sinews of War: Army Logistics 1775-1953*, 1st ed., Army Historical Series (Washington, DC: Center of Military History, 1966), 147.
[22] Ibid., 147-153.
[23] U.S. Army, *Field Manual 3-0 Operations (D.R.A.G. Edition)*, 3-14.

mobilizing, others are deploying; yet still others are employing. Immediately after the arrival of the first person, the sustainment operation begins. They can take up a large portion of the strategic lift assets available to support deployment units into theater. Additionally, while units are still deploying into the theater, initial entry forces may redeploy to CONUS or other operational areas. The U.S. possesses limited strategic mobility assets to deploy, sustain, and redeploy forces simultaneously. Therefore, the U.S. developed an intricate process of deployment to maximize the effectiveness and efficiency of the lift assets.[24]

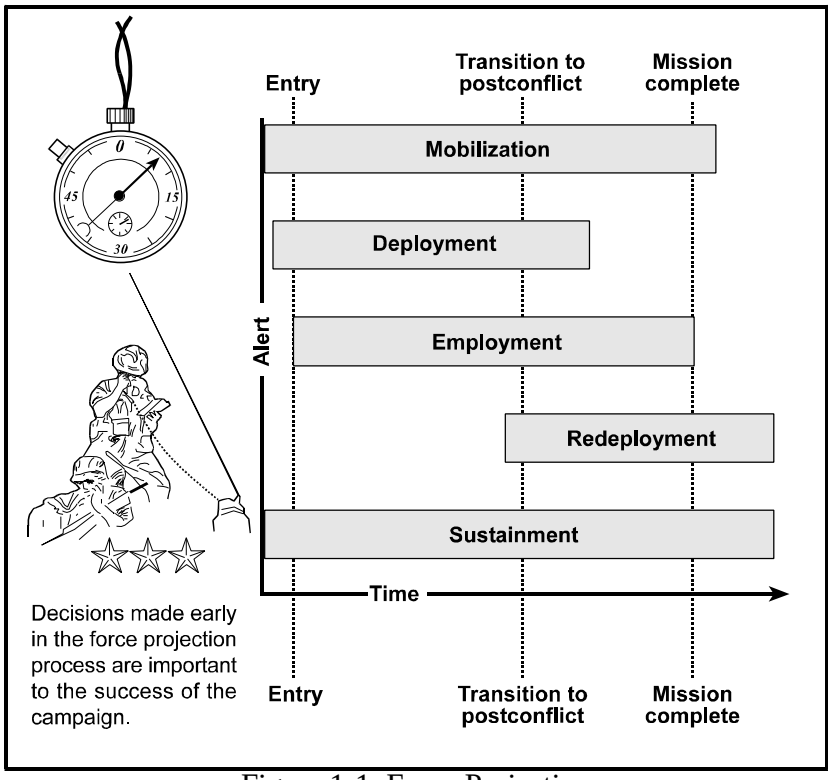

Figure 1-1, Force Projection

The deployment process as defined in *Field Manual 3-0* is "the movement of forces and materiel from their point of origin to the Area of Operation (AO)." The

[24] Gen Charles T. Robertson, "Global Mobility: The Keystone to America's Defense Strategy," in *Rapid Global Mobility in the 21st Century* (Robins Air Force Base, Georgia: Center for International Strategy, Technology and Policy, Georgia Institute of Technology, 1999), 53 - 75. Dr. Endicott, Professor of International Studies for Georgia Institute of Technology and Conference Director, states that "this

deployment takes a unit, breaks it into transportable pieces, pushes the pieces through the strategic lift pipeline and reconfigures the pieces into units ready to fight at the other end. This element of the force projection system is critical to the overall build-up of combat power and the ability of the commander to impose his will on the enemy.

The deployment process consists of four parts: Predeployment Activities; Mobilization Station to Port of Embarkation (POE); POE to Port of Debarkation (POD); and POD to Tactical Assembly Area (TAA). Figure 1-2, Deployment Process,[25] graphically depicts the whole system; identifying the four parts as predeployment activities, fort-to-port, port-to-port, and port-to-foxhole. The last three are synonymous with the Mobilization to POE, POE to POD, and POD to TAA. Regardless of the name, they identify sections where key units undergo the process of breaking down into transportable pieces, moving through the system, and then reconfiguring to conduct operations.

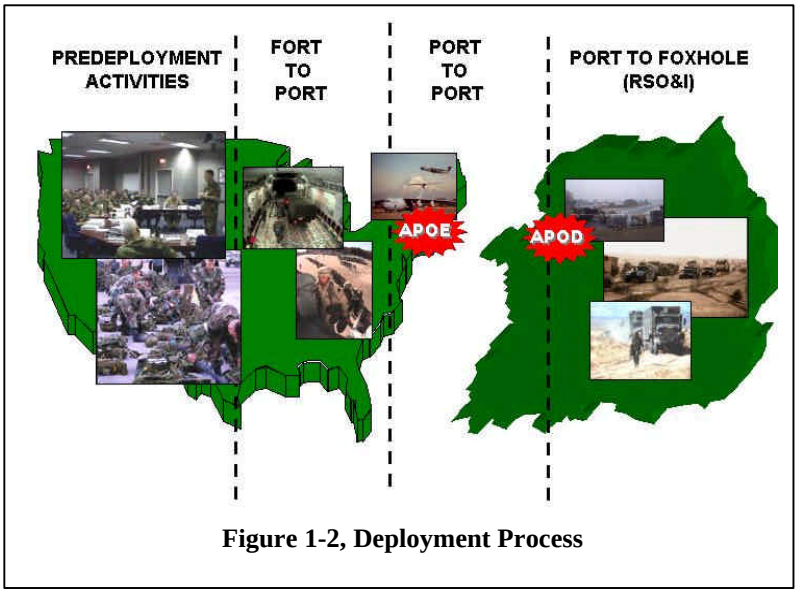

Figure 1-2, Deployment Process

Predeployment Activities. Predeployment activities consist of those activities that lead up to the alert notification. They include but are certainly not limited to training

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symposium provided the an opportunity for some serious thought about the future of the force projection system." P. 1

soldiers on individual and collective tasks, conducting deployment planning, qualifying individual and crew served weapons, receiving routine shots, updating medical and dental records, updating family care plans and wills. Completion of predeployment activities can enable or severely hamper the ability of a deploying unit. For example, the crew of the Light Armored Vehicle (LAV) currently consists of three soldiers: driver, gunner, and commander. The whole LAV team consists of the crew plus nine infantry soldiers. This team trains and understands the capabilities and limitations of each other – qualities gained only through shared experiences. Their actions become standard operating procedure (SOP) for the team. These SOP actions enable the rapid reaction and survival on the battlefield. If the driver fails to complete a family care package or finish necessary dental work, he becomes "non-deployable." When the unit alerts for deployment, the time is not available to get things in order. The team must now deploy with a new driver, making the team less efficient and effective, potentially hampering the operation and endangering the lives of the team members.

Units must utilize the limited predeployment time to train and get ready for the gamut of possible operations. No longer will units have unlimited time to prepare for the operation. Units will Train – Alert – Deploy – Employ. Once alert notification is given, the unit begins the process for deployment.

Mobilization to POE (Fort-to-Port). This portion of the system consists of moving equipment and personnel to the airfield and the seaport for departure to the AO on strategic lift assets provided by United States Transportation Command (USTRANSCOM). The key tasks accomplished at the mobilization location include

[25] James Viable, "Reception, Staging, Onward Movement, and Integration," in *Support to the Interim*

medical evaluations, vehicle readiness, loading of equipment, and verifying load information. These tasks lead to the effectiveness in the movement to the port and the efficiency at the port. Movement to the port is handled via commercial line haul, commercial rail, military line haul and/or unit convoy. Most mobilization installations are near their corresponding Aerial Port of Debarkation (APOD) so the unit equipment deploying by air usually moves under its own power. Equipment moves forward from mobilization stations in a sequential manner to provide for efficient loading operations at the POE.

POE to POD (Port-to-Port). The deployment system has greatly improved in this area since the Gulf War. The U.S. Air Force (USAF) purchased 134 C-17 aircraft (last arrival scheduled in 2003). These aircraft provide the lift capability of the C-5 Galaxy aircraft with the takeoff and landing ability of the C-130 tactical aircraft. [26] The U.S. Navy (USN) focused efforts to increase the responsiveness of the Ready Reserve Force (RRF). In the Gulf War only 33% of the RRF ships were on time, resulting in many delays in the movement of forces to the theater.[27] The capabilities of the strategic lift steer the procedures and force structure for the fort-to-port and port-to-foxhole.

POD to TAA (Port-to-Foxhole). This leg of the deployment system is RSOI. The purpose is to reconfigure deploying units, which were broken into smaller pieces, back into completely functional units ready to conduct operations. RSOI sometimes referred to as the "Achilles heel" of deployment is essential to meeting the commander's goal of

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Brigade Combat Team (Fort Eustis: Deployment Process Modernization Office (DPMO), 2000).
[26] Robertson,,, 61.
[27] Matthews and others, 273-279.

warfighting.[28] It is a new term[29] which attempts to encompass a process to solve an old problem of how to receive personnel and equipment into a theater of operations, rejoin these elements into combat ready units, and integrate these units into the Joint Forces Commander (JFC) command structure. Chapter three goes into greater detail of the RSOI process and its individual elements.

In an environment that existed during the Cold War, prepositioned stocks and forward presence oversimplified the importance of RSOI. The Gulf War reacquainted the U.S. Army with the difficulties of RSOI on a large scale. Lieutenant General (Retired) William G. Pagonis writes extensively in his book, *Moving Mountains*, about the difficulties and importance of what he termed reception, onward movement and sustainment.[30] The operations, in Somilia, Haiti, the Balkans, and Rwanda, experienced similar problems, but on a smaller scale.

The force projection system is a complex process to break units into transportable pieces, move them anywhere in the world, and reconfigure them into combat forces – all before the enemy can move to occupy the same advantageous terrain. The next section

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[28] U.S. Army, *Field Manual 100-17-3 Reception, Staging, Onward Movement, and Integration*, 3.

[29] Lieutenant General Daniel Brown, "Deputy Commander in Chief, United States Transportation Command", ed. Major Christopher Croft (Fort Leavenworth: 2001). In 1993 the term RSOI was not in Army doctrine. Lieutenant General Brown (then Brigadier General, Commanding General, 19th Theater Army Area Command) discovered the term used infrequently in Korea. Although the elements of RSOI have always existed, according to LTG Brown, they were never grouped together under the term RSOI.

[30] Pagonis and Cruikshank, 68-72, 82, 95, 118, 119, 221. He defines the terms as follows: "reception of troops in-theater, during which they retrieve supplies and weapons that have been shipped from the home base; onward movement to a designated location to take up their defensive position; and sustainment of those troops for the duration of the mission." (p. 69) RSOI takes his process a little deeper to include the sub-elements of staging and integration. Obviously those elements existed in LTG Pagonis' strategy but the need to develop further for provide the linkage for the warfighter was necessary as identified in FM 100-17-3 page vi which states "RSOI is a process by which combat power is generated. Often viewed as a logistics problem, it is, in fact, a critical operational challenge that relies on a logistical infrastructure for successful execution. In a power projection environment, the ability to execute any mission largely depends on the speed with which combat power can be assembled at required locations. This involves much more than merely bringing soldiers and equipment into the theater. Moreover, numbers, types, and sequencing of

reviews the force projection forces and the expectations of the army for projecting those forces in the future.

Force Projection Army

The force projection abilities of the U.S. are constantly under review and refinement. During the time of deterrence through forward presence, the requirement was to deploy ten divisions to Europe in ten days.[31] With the majority of the equipment already in place, only the passengers had to deploy by air. The 1995 Mobility Requirement Study – Bottom Up Review Update established the new requirement for a force projection army. It stated the requirement as five and one-third divisions in 75 days 8,700 miles away from continental United States (CONUS).[32] This marked the change in philosophy from forward deployed to force projection from the U.S.

The force structure of a forward deployed army is different from that of a force projection army. Forward deployed forces require larger more survivable equipment, while force projection armies require equipment that is survivable as well as deployable on the available strategic lift assets. John Gordon and Peter Wilson discussed the issue of force structure in a 1998 Army War College Study where they referred to the current structure as a "Barbell" division structure. "The 10-division Army of 1998 has six "heavy" armored or mechanized divisions on one end of the spectrum and three air transportable or light divisions on the other end. The single airmobile division lies

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these units must support the commander' s concept of operations. As a result, RSOI must be included in the earliest operational planning."

[31] Matthews and others, 30.

[32] U. S. Department of Defense, *Mobility Requirements Study - Bottom Up Review* (Washington, DC: Department of Defense, 1995), Report.

somewhat in the middle."[33] This well-known gap in capability, between the heavy and light forces, along with the change in leadership marked an opportunity to become more strategically responsive.[34]

In October 1999, General Eric K. Shinseki announced the next phase of achieving strategic responsiveness. He felt it was the Army's responsibility to provide "to the Nation an array of deployable, agile, versatile, lethal, survivable, and sustainable formations, which are affordable and capable of reversing the conditions of human suffering rapidly and resolving conflicts decisively." To accomplish this, he declared that the IBCT would be air deployable anywhere in the world within 96-hours of the first aircraft taking off. The intent of the IBCT is to arrive first, ready to employ, and to defeat the enemy. This satisfies the near term vision but General Eric K. Shinseki also identified a long term vision that "we will transform the most respected Army in the world into a strategically responsive force that is dominant across the full spectrum of operation."[35]

This Transformation requires an even bigger step which he articulated by further stating that the next goal is one division anywhere in the world within 120 hours with a final endstate of five and one-third divisions anywhere in the world within 30 days.[36] GEN Shinseki is stretching the box to ensure that the U.S. Army is able to achieve Sun Tzu's vision of occupying the battlefield first and awaiting the enemy.

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[33] John Gordon and others, *The Case for Army XXI "Medium Weight" Aero-Motorized Divisions : A Pathway to the Army of 2020* ([Carlisle Barracks, Pa.]: Strategic Studies Institute U.S. Army War College, 1998), 4.
[34] U.S. Army, *Interim Brigade Combat Team (IBCT) Organizational and Operational Concept (Final Draft)*, 1-1.
[35] Shinseki,,(accessed).
[36] Major General William Mortenson, "Transportation Corps Update", ed. TC Officers in CGSC and SAMS (Fort Leavenworth: 2000).

Just as important in understanding where you are, is the importance of establishing an appreciation of where you have been. Chapter two looks at the history of deployment operations and RSOI to set the stage for an analysis of the process and how to improve it.

Chapter 2

History is replete with examples of forces deploying into a theater of operation where upon arrival they had to offload; marshal all the equipment, supplies and personnel; then, move to fight against the enemy. This chapter examines recent history to determine the presence of RSOI elements and their importance on the operation's success. Additionally, it quickly reviews the major attempts to establish U.S. rapid deployment forces over the same period.

RSOI Use Since WWII

RSOI is a relatively new term[37] for something that has been going on since the United States invaded Mexico in 1847. Each major operation since then has its own vignettes about RSOI and its impact on the operation. Historical vignettes from actual operations establish an approach for illustration. These are not extensive case studies, they are only a backdrop to establish the existence of the process over time. The vignettes used for illustration include operations in WWII, the Gulf War, Restore Hope (Somalia), and Uphold Democracy (Haiti) with the objective to outline the vital importance of RSOI for these combat operations.

The North African campaign, in June 1943, was quickly coming to a halt. Badly needed forces, equipment and supplies were not reaching the front. In Algiers, the seaport of debarkation (SPOD), over thirty ships packed the harbor waiting for offload. The harbor, capable of unloading several ships simultaneously had only one ship in the

[37] See footnote 29.

process of offloading. Interestingly, the only supplies offloading were the 25-pound munitions. The rail yard was also full of loaded rail cars, however, the ones moving were the 25-pound munitions loaded rail cars. Personnel and troop movements were not occurring even though the units near Tunisia needed the replacements. New units were either on ships or on the ground awaiting onward movement. The situation was one of gridlock and needed something or someone to add structure and discipline.

Major General Gale took control of this worsening situation. First, he ceased all ship offloading regardless of the priority. Next, he put all the trains with personnel and equipment on the tracks toward the front. As space became available, equipment jamming the port facilities moved to the staging area. In four days, Major General Gale began the offloading of ships, immediately cleared the port and moved the personnel, equipment, and supplies to the marshalling area. Finally, based on the needs of the front, equipment left the staging area, prepared for onward movement and moved to the front. "The breakdown demonstrated that considerable logistical reorganization was required for the large scale offensive."[38] This was a good example of the impact poorly organized and executed RSOI can have on combat operations. Just as RSOI can hamper operations, it can also have an enabling effect.

WWII again serves as the backdrop for this enabling vignette where RSOI made possible the successful execution of operation OVERLORD – the invasion of the Nazi occupied France. The early deploying forces were those units that were designated to take the beach at Normandy. They deployed from the U.S. to arrive and stage in England. There they task organized for the invasion mission and integrated into the

higher headquarters command. At the appointed time, these early entry forces loaded aboard assault landing craft and invaded the beaches of France. They had to deploy into the theater combat ready – fighting as they left their transportation. [39]

The RSOI for the follow-on forces was slightly different. The follow-on units moved from their staging areas, in England, to the port, loading aboard hundreds of landing craft, for onward movement to the TAA. Since this was an over the beach operation, U.S. Army and British engineers designed and build a portable port, known as the Mulberries, which would float across the channel and anchor against the beach extending out almost two miles. The integration for the follow-on forces was the beachhead. Inside the limited security of the beachhead, these forces established communications and were incorporated into the action.[40] Although this operation was wrought with danger and unexpected circumstances, it still to this day serves as a reminder to the imagination and innovation of the U.S. support forces.[41] The ingenuity of logistics forces was again tested in the sands of the Saudi Arabia.

The process of RSOI during WWII took months – the luxury of time was available. During the Gulf War the available time was not as certain. Saddam Hussein was on the border with enough combat power to attack Saudi Arabia. The orders to

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[38] Julian Thompson, Major General, *The Lifeblood of War: Logistics in Armed Conflict* (New York: Brassey's (UK), 1991), 65-66. Outlines the impact of logistics on the North African Campaign.
[39] Guy Hartcup, *Code Name Mulberry* (New York: David and Charles Publishing, 1977), 175-182.
[40] Alfred Stanford, *Force Mulberry* (New York: William Morrow and Company, 1951), 122-148. After only nine days of operations using the Mulberries, a severe storm destroyed these portable ports. The engineers and logistics personnel scrambled to reestablish some of the remaining elements. Within five days they had the ports operational again exceeding the capacity of reception of personnel, equipment, and supplies, to that prior to the storm. The Mulberries never achieved the offload capability originally envisioned but without their presence the breakout operation and subsequent capturing of the fixed port facilities nearby would have taken considerably more time and potentially endanger the success of the entire invasion.
[41] Huston, 523 - 525. Support forces refers not only to the logistics units, but also to the engineers who designed and built the Mulberry ports.

move forward could come at any moment. Units rapidly deployed into the theater. The goal was getting as much there as quickly as possible then sorting it out on the ground. Early deploying units like the 82d Infantry Division (Airborne) were not very mobile in the large expanses of the Saudi Arabian desert. Upon arrival, USAF elements on the ground offloaded the equipment and personnel from the aircraft. Army elements coordinated the billeting and onward movement via commercial buses to the tactical assembly area where the deployed units established their initial defenses.[42] As the follow-on effort grew so did the RSOI process for sorting the puzzle of equipment and personnel. LTG(R) Pagonis discussed this whole process in detail in his book *Moving Mountains*, he broke the RSOI process into three elements: reception, onward movement, and sustainment.[43]

Regardless of the title he used, LTG(R) Pagonis had a major situation on his hands. As fast as possible, aircraft were bringing troops into the three major airports. Ships were lined up in the gulf awaiting an open berth.[44] Respectively, LTG(R) Pagonis' focus on reception and onward movement helped reduce the RSOI time to days. During the peak of the deployment process, a battalion sized unit required in excess of ten days to complete the process.[45] The deployment flow was so unsynchronized that without reception and onward movement, units would still be sitting at the port or on ships awaiting offload and onward movement.[46] RSOI, obviously not in its final state, was

[42] Pagonis and Cruikshank, 84-89.
[43] See footnote 30.
[44] Berth is a location in a seaport where ships dock and offload their equipment. Saudi Arabia had and still has some of the most modern ports in the world.
[45] Pagonis and Cruikshank, 65-68.
[46] Ibid.

critical to the overall success of the operation. Similar problems exist in stability operations and support operations (SASO).

Somalia is a good case study to identify RSOI functions in a SASO environment. Deployment operations to Somalia (Operations Restore Hope) moved over 33,000 passengers and 32,000 short tons of cargo by airlift alone. Sealift operations accounted for 365,000 measurement tons, 14 million gallons of fuel, and over 1,000 containers.[47] The 15th MEU (Marine Expeditionary Unit) came ashore and secured the seaports and airfields. The marine early entry forces conducted their RSOI at home station and deployed combat ready. After securing the ports, the MEU inserted a USAF combat control team (CCT) to establish the airfield operations. Within hours of arrival, the 1st Marine Expeditionary Force (MEF) began arriving from the U.S. by air with their equipment offloading at the seaport. Arriving personnel and equipment staged and integrated on the airfield and ultimately moved to another operating base for integration.[48] Several factors affected the overall success of the operation – runway, taxiway, throughput, cooperation, and host nation support. The RSOI forces helped alleviate these limiting factors through contracting and the opening of other ports of entry.

In supporting this operation, the USAF established five different teams: (1) onload; (2) contingency tanker task force; (3) stage / en route; (4) hub / transload; and (5) spoke / offload.[49] These five teams, now called "Global Reach" teams, deploy before the

[47] Kenneth Allard, *Somalia Operations: Lessons Learned* (Washington, DC: National Defense University, Institute for National Strategic Studies, 1999), 45.
[48] Lt Col John L. Cirafici, *Airhead Operations - Where AMC Delivers the Linchpin of Rapid Force Projection* (Air University Press, Maxwell AFB, Alabama, 1995), 5, 35-37.
[49] Ibid.

initial forces to establish an infrastructure for support of the air bridge. Today, the Air Mobility Command deploys these teams routinely to ensure support and success of operations.[50] Innovations developed and tested under real world situations formed the basis of improvement on the next operation.

The last and most recent action was Operation Uphold Democracy in Haiti. U.S. forces moved quickly to seize key power centers of the ruling party. Decisive to the success of the operation was the deployment of forces quickly and efficiently. The geographical location of Haiti provided opportunities to utilize a variety of means for deployment. The initial forces of the 10th Infantry Division (Mountain) moved from Fort Drum, New York to Norfolk, Virginia where they staged and task organized into the first brigade combat team (1 BCT). Then the team loaded aboard the USS Eisenhower for onward movement and integration. The USS Eisenhower served as a mobile TAA for the 1 BCT.[51]

At the designated time, the 1 BCT air assaulted from the USS Eisenhower and secured the ports of entry for the follow-on elements of the division. The follow-on divisional units at Fort Drum deployed their equipment by rail to Bayonne, New Jersey and onto a ship for movement to Haiti. As those ships began offloading in Haiti, the personnel deployed from Fort Drum by air to link-up with their equipment in the staging area.[52] Mr. John T. Fishel, a professor with the Department of Joint Military Office, Command and General Staff College, writes "[t]he deployment went like clockwork, by

[50] Ibid., 81-82.
[51] Walter E. Kretchik, Robert F. Baumann, and John T. Fishel, *Invasion, Intervention, "Intervasion": A Concise History of the U.S. Army in Operation Uphold Democracy* (Fort Leavenworth: U.S. Army Command and General Staff College Press, 1998), 100 - 101.
[52] Ibid., 101, 166.

sea and air."[53] Deploying units experienced no more than three days of RSOI. The speed and efficiency of the RSOI process increased over time to provide the operational commander with a greater force at the time needed.

History also provides examples for the development of rapid-deployment forces that can complement the development of the RSOI process.

Rapid Deployment Forces

Rapid deployment forces are nothing new to the U.S. Army. This section examines the history of these type forces and the reasons for their development.

The demobilizations following both WWII and the Korean War saw the elimination, save the 82nd Infantry Division (Airborne), of the U.S. divisional units designed for rapid deployment.[54] As the United Kingdom (UK) troops departed many of the world's hotspots, the U.S. did not have forces "capable of aiding…troubled countries."[55] As far back as the 1960s, Secretary of Defense Robert McNamara suggested that the U.S. Army develop "a global intervention force of a fire brigade capable of deploying worldwide."[56] Vietnam put aside the discussion of a "fire brigade", but finally, in 1979, President Carter directed the military to "start looking for forces capable of dealing with remote contingencies."[57] By October 1979, the U.S. Army created the rapid deployment force (RDF).[58]

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[53] Ibid., 166.
[54] David Eshel, LTC (Ret), *The U.S. Rapid Deployment Forces* (New York: Arco Publishing, Inc., 1985), 55.
[55] Ibid.
[56] Ibid., 56.
[57] Ibid.
[58] Ibid., 59.

In 1981, the U.S. Army attempted to develop a larger force capable of deploying totally by air. This new unit, the 9th Infantry Division (ID), was air deployable like a light division, but maintained the lethality of the heavier forces.[59] The RDF and 9th ID disbanded for a variety of reason, but the U.S. is again looking to develop rapid deployment forces, deployable by air, and as lethal and survivable as the U.S. heavy forces today.

Historical examples provide the background on the development of rapid deployment forces and the RSOI elements, demonstrating their existence and inefficiencies over time. Following Operation Uphold Democracy, the logistics community recognized the need to employ faster upon arrival and set into motion a strategy to drive the RSOI system into standardization but also to streamline the process and reduce the time units spend reconfiguring.

[59] Ibid., 119 - 120.

Chapter 3

As U.S. forces endeavor to beat the enemy to the most advantageous position on the battlefield, reconfiguring forces in theater becomes paramount. History shows RSOI as a process that adapts to the environment and enables the achievement of operational goals. It is important to understand where RSOI is today and the pieces that make up the whole process. This chapter examines the four-part strategy for standardization and improvement that led to the current RSOI process. Additionally, the chapter examines key IBCT initiatives that affect the deployment process.

The ability to piece back together the units is crucial. "RSOI consists of essential and interrelated processes in the A[rea of] O[peration] that transforms arriving personnel and materiel into forces capable of meeting operational requirements."[60] The U.S. Army is required to be ready for global force projection with a mix of Heavy, Light, and Special Operations forces, with appropriate levels of Combat Support (CS) and Combat Service Support (CSS). The first forces to deploy secure the lodgment for the receipt of follow-on forces. These early arriving forces generally arrive by air in tactical configuration.

In a rapidly changing strategic environment with dramatic advances in technological applications to military operations, CSS doctrine must be flexible, with support personnel willing and able to apply evolving principles and techniques to a variety of dynamic situations. The CSS community is making great strides in this area. During the Gulf War, a battalion sized unit could expect nine to seventeen days in the staging area alone. The U.S. Army developed a four-part strategy to improve and

[60] U.S. Army, *Field Manual 100-17-3 Reception, Staging, Onward Movement, and Integration,* 1-1.

standardize the process of RSOI. This four part strategy was a major factor in Haiti and the continued development / refinement of RSOI. Today, the goal is five days to complete the total process, but it must continue to improve.

Four-Part Strategy

The validity of the RSOI process in light of the less than stellar deployments to Somalia and Haiti required a clear, concise and understood game plan. Lieutenant General Daniel Brown (then Major General), Chief of the Transportation Corps at Fort Eustis, Virginia,[61] initiated the idea of developing a four-part strategy to standardize and improve the RSOI process.[62] The four-part strategy broken into Doctrine, Training, Enablers, and Force Structure, established a common understanding for all the U.S. Army on the RSOI process. It also helped by dividing the improvement efforts into four elements, which distributed the workload, established goals by group, and articulated intent.

The transportation doctrine writers at Fort Eustis, Virginia focused on the development and publication of the new *Field Manual 100-17-3, Reception, Staging, Onward Movement, and Integration.* The logistics community as a whole had many different forms of RSOI. Lieutenant General Daniel Brown began the process of developing a common understanding and terminology for RSOI. He elicited support around the Army to endorse this all-encompassing operation to build combat power in the

[61] LTG Daniel Brown currently serves as the Deputy Commander in Chief, United States Transportation Command. As a Major General he served as the Commanding General, Combined Arms and Support Command (CASCOM) and Commanding General, U.S. Army Transportation Center and Fort Eustis, and Chief of the Transportation Corps.

[62] The author could not find written statements attributing the four-part strategy to LTG Daniel Brown, however, during a telephonic interview on February 2, 2001, he confirmed the authenticity of the statement.

theater. His efforts established the common understanding of RSOI and resulted in the publication of *Field Manual 100-17-3*, thereby solidifying the concept and placing everyone on a common operational level.

Training is "to teach and form by practice; to educate; to exercise; [and] to discipline" according to *Webster's Revised Unabridged Dictionary*. Training exercises, such as, Bright Star[63] and RSOI Rock Drills[64], serve to teach, educate, exercise, and disciple the U.S. Army on RSOI. The amalgamation of RSOI into joint training events took on a new aspect. With the help of the Joint Staff, a sea deployment exercise (SEDRE) took shape. The exercise alerted a unit for immediate deployment. The unit completed its deployment preparation, awaiting a call forward from Military Traffic Management Command (MTMC). Finally, one unit (usually one Brigade) would receive forward movement guidance. The purpose of this training exercise was to identify the difficulties in conducting surface deployment operations.[65]

The largest and most effective training implementation was the incorporation of RSOI into every rotation at the National Training Center (NTC). Units deploying to NTC undergo a three-pronged RSOI. Each prong represents the different method of

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[63] Bright Star is a coalition training exercise conducted in Africa every two years. A brigade sized element deployed via sealift and airlift to Alexandria, Egypt where they process through the RSOI system and conduct an exercise with the Egyptian Army and Air Forces.

[64] Deployment Process Modernization Office, *Helping to Achieve Strategic Responsiveness in the 21st Century* [Internet] (Fort Eustis, Virginia, October 28, 2000, accessed December 2, 2000); available from http://www.deploy.eustis.army.mil/. The Rock Drills are designed to articulate the entire process of RSOI from beginning to end. These drills focused initially on Army senior leadership to skillfully and quickly enlighten the key leaders on the role RSOI plays in building combat power effectively and efficiently.

[65] Military Traffic Management Command,, [Internet] (November 1, 2000, accessed November 10, 2000); available from http://baileys-mtmcwww.army.mil. SEDREs, funded by the Joint Staff, serve to exercise the surface deployment system. For example, in 1996, the 101st ID (Air Assault) alerted and moved from Fort Campbell, Kentucky to Jacksonville, Florida via rail, commercial line haul and self-deployment. At the port, the unit prepared its equipment and loaded aboard an RRF fast sealift ship (FSS). The FSS departed Jacksonville and sailed to Newport News, Virginia when the FSS offloaded in protected waters but not at

preparing equipment for combat operations: deploying personnel by air and unpacking equipment from permanent prepositioned assets; deploying personnel to offload equipment from prepositioned assets aboard ships; and deploying unit equipment from home station by ship then deploying personnel by air. All of these options require the unit to plan and conduct the RSOI to build combat power at a rapid pace to meet the commander's intent to support combat operations. Nested within this three-pronged approach, NTC exercises RSOI in various operations, from major theater war to support operations and stability operations. It trains and exercises the deploying unit on force protection and sustainment operations as well. NTC presents the deploying units with every possible configuration of RSOI. Failure in RSOI results in limitations of combat power on the battlefield.

Enablers assist in the development of improvements in the overall RSOI process. Key innovations in technology include information systems and computer simulations. Information systems are the key to understanding the situation and to making quantifiably better decisions. In-Transit Visibility (ITV) provides information on all items, personnel, equipment, and sustainment stocks that are moving in the Defense Transportation System (DTS).[66] Additionally, ITV provides the RSOI commander with the ability to track combat power and capability at specific times. The Global Transportation Network (GTN) supports ITV by consolidating and integrating data from many other computer system sources. Users assess GTN via the worldwide web. GTN identifies where unit

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the port. The 101st personnel flew from Fort Campbell to meet up with their staged equipment and conducted onward movement back to Fort Campbell, which served as their TAA.

[66] The DTS is defined in Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms, dated June 14, 2000, as "that portion of the Nation's transportation infrastructure which supports Department of Defense common-user transportation needs across the range of military operations.

personnel, equipment and supplies are in the deployment system. It provides RSOI personnel the capability to forecast the workload resulting in a more efficient operation.[67]

Computer simulations provide tools for commanders to understand the situation and make informed decisions. Three tools available through USTRANSCOM are Joint Flow Analysis Support Tool (JFAST), the Enhanced Logistics Intra-theater Support Tool (ELIST), and Port Simulation Model (PORTSIM). JFAST is a multi-modal transportation analysis model designed to determine transportation requirements, perform course of action analysis, and project delivery profiles of troops and equipment by air, land, and sea. These deployment estimates provide input for establishing concepts of operations and timing for military operations. JFAST also feeds information into GTN.[68] ELIST evaluates the transportation feasibility for the theater portion for a course of action, including RSOI activities. Specifically, it addresses whether transportation infrastructures and lift allocations support the movements of forces and supplies to their destinations on time.[69] ELIST can "model and evaluate alternative courses of action, select routes that best suit objectives, identify infrastructure that hinders force projection goals, and predict force closure to support future employment planning."[70] PORTSIM evaluates in detail operations and activities that occur at specific seaports of embarkation and debarkation. It determines port reception, staging, cargo clearance, and throughput capabilities. PORTSIM also identifies constraints, and provides reports on the utilization

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It consists of those common-user military and commercial assets, services, and systems organic to, contracted for, or controlled by the Department of Defense." p. 145

[67] U.S. Transportation Command, *Global Transportation Network (GTN)* [Internet] (Lockheed Martin, 2000, accessed December 18, 2000); available from www.gtn.transcom.mil/.

[68] Oakridge Laboratory, *Joint Flow and Analysis System (JFAST)* [Internet] (2001, accessed January 10 2001); available from www.jfast.org.

[69] Transportation Engineering Agency, *Turning Today's Vision into Tomorrow's Strengths* [Internet] (Keith Turner, November 2, 2000, accessed November 10, 2000); available from www.tea.army.mil.

of port assets.[71] These enablers and many others help the Theater Support Command (TSC), the agency responsible for the theater's RSOI operation, to design the right support force structure and apply them against the requirements. Optimizing the force packages early, eases the friction during the deployment process, again adding to improvements in the RSOI process.

Force structure development is a very bureaucratic process. The U.S. Army Transportation Corps assumed the mission of modularizing transportation units to accomplish a variety of missions in theater. The first such unit fielded in 1999 was the Cargo Transfer Company (CTC).[72] The CTC handles operations at a seaport, airport, and distribution center. The design is such that as the workload shifts so can the unit. This eliminates the necessity of deploying one unit, to accomplish only one mission and then redeploy it to CONUS. Units have the capability to handle multiple taskings.[73]

Taken individually these improvements are good ideas but they do not provide the necessary synergy. Combining the effects of all these operations provides the necessary focus to improve operations. Historically, RSOI played a major role in the execution and success of operations. The forms of RSOI have changed and progressed with time. The logistics community continues to refine the process to provide greater flexibility and efficiency in building combat power.

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[70] Ibid., (accessed).
[71] Ibid., (accessed).
[72] LTG Daniel Brown, "U.S. Army Transportation Corps,", ed. Transportation Corps Officers in CGSOC Class 1999 - 2000 (Scott Air Force Base, Illinois: 2000).
[73] Ibid.

Current RSOI Elements

As previously discussed, the deployment process consists of four phases: pre-deployment; fort-to-port, port-to-port, and finally port-to-foxhole[74]. The pre-deployment activities include: unit training, deployment training, deployment preparation, task organization, equipment maintenance, equipment documentation, stuff containers, soldier readiness, and family support development. Fort-to-port represents the movement of personnel and equipment to the POE. Activities at the aerial port of embarkation (APOE) include prioritizing movement, road convoy for equipment, joint inspection of equipment, and bus movements for personnel. Port-to-port represents the ability of the U.S. Air Force (USAF), U.S. Navy, and commercial industry to move the Army's equipment anywhere in the world. This portion of the deployment process belongs to the United States Transportation Command (USTRANSCOM), the single manager of strategic lift for the Department of Defense. The numbers of aircraft and vessels available, plus the desired flow of equipment dictates the movement schedule. The final phase, port-to-foxhole, is the focus for RSOI, the means by which commanders shape and expedite force closure[75] into the theater of operations. For the IBCT the timeliness of this entire process is critical once the airflow actually begins. Estimates show that one aircraft must depart every fifteen minutes to maintain the proper flow and meet the 96-

[74] RSOI Briefing from 1ID and FM 100-17 – Note: 100-17 on page 1-7 states five phases. This document is under re-write, since the publication of the document the last two phases, Reception at the POD and Onward Movement were combined into RSOI and therefore making only four phases of deployment. The four phases of deployment are often confused with the three legs of deployment – fort-to-port, port-to-port, port-to-foxhole. In addition, there are three legs to the strategic mobility triad – airlift, sealift, prepositioning ships.

[75] See footnote 19 for a definition of force closure.

hour requirement. With that said, what exactly happens at each stage within RSOI for an air deployment operation?

The functions of ROSI are applicable across the entire spectrum of military operations, and are at all levels of war – strategic, operational, and tactical. Reception is often the interface between the strategic and the operational levels. Staging and onward movement are normally within the operational level. Finally, Integration represents the interface between the operational and tactical levels of war.

Reception is the process of unloading personnel and equipment from strategic or operational transport, marshaling local area transport (if required), and providing life support to the deploying personnel. Staging is the process of assembling, holding, and organizing arriving unit personnel and equipment. Staging also prepares units for onward movement while providing life support. Onward movement is the process of moving units and accompanying materiel from reception facilities and/or marshaling or staging areas to tactical assembly areas (TAAs) or fighting positions (foxholes). Finally, integration is the synchronized transfer of authority of units and forces to a designated component or functional commander for employment in the theater of operations.

Force closure is the primary objective of the RSOI operation. Because force closure has a direct impact on the ability of the commander to implement his concept of operations, the RSOI operation is characterized by a high degree of direct, hands-on involvement by the operational commander in concert with his logistics staff and logistics organizations. Successful RSOI requires its full integration into the campaign plan. General planning considerations and procedures are essential for a quick transition from RSOI to combat operations.

Reception

Reception is the "process of unloading personnel and materiel from strategic transport, marshaling the deploying units, transporting them to staging areas, if required, and providing life support to deploying personnel."[76] Reception functions are those activities, which facilitate throughput of equipment, supplies, and personnel at the ports of debarkation. They include command and control (C2), movement control and port operations. USAF personnel must first setup the airfield for operations in preparation to receive the aircraft and offload their cargo. One limiting factor is the maximum (aircraft) on ground (MOG) – maximum number of aircraft on the ground at any given time. Key to successful operations and increasing the MOG is the 60K Tunner loader. The loader offloads 463L pallets from the military aircraft. Without this necessary piece of equipment, offload operations would severely slow down the reception operations.

In order to meet the CSA guidance for the IBCT, the airfield must offload an aircraft every fifteen minutes for almost 96 hours. The U.S. Army and USAF split the responsibility for aerial port of debarkation (APOD) operations. The USAF is responsible for the airfield including: air terminal control, loading, unloading, and the servicing of aircraft. The Army is responsible for clearing personnel and cargo and for life support as required. Together they are responsible for the security of the airfield and its personnel. The Air Force/Army interface occurs between the Air Force Tanker Airlift Control Element (TALCE), the Army Arrival/Departure Airfield Control Group (A/DACG) and the Port Movement Control Team (PMCD). Assigned to the A/DACG is

[76] U. S. Department of Defense, *Joint Publication 4-01.8 Joint Tactics, Techniques, and Procedures for Joint, Reception, Staging, Onward Movement, and Integration* (Washington, DC: June 13, 2000), IV-1.

the Army's Cargo Transfer Company (CTC).[77] Its mission is to conduct airfield clearance operations by receiving and processing planeloads for release and onward movement. The PMCD is an Army movement control team assigned to an air terminal to "coordinate onward movement of personnel, unit equipment, and cargo."[78] All ports have a finite processing and storage space, and unless personnel and equipment clear the area quickly, the port will become congested and unable to receive forces. Time lost anywhere along this process is unrecoverable to the operational commander. Reception operations also include maintaining command and control of the pieces, establishing movement control, port operations as mentioned above, port security (in this case the responsibility falls on the USAF), and medical support.[79]

To facilitate rapid movement out of the airport, the necessary communications, personnel, and cargo handling equipment must be in place. Both TALCE and A/DACG personnel and equipment must deploy with the lead elements into the theater.[80] The TALCE controls all activities at the offload ramp area and supervises aircraft offloading. The A/DACG escorts loads and personnel to holding areas, i.e., it clears the airfield and ensures airfield operations and strategic airflow is not limited because of the accumulation of cargo.[81] Efficient movement control allows the commander to redirect forces and rapidly compensate for disruptions in the line of communication (LOC). The

[77] U.S. Army, *Field Manual 100-17-3 Reception, Staging, Onward Movement, and Integration,* 3-4 – 3-6.
[78] Ibid., 3-5.
[79] Ibid., 3-6.
[80] Cirafici, 36.
[81] U.S. Army, *Field Manual 100-17-3 Reception, Staging, Onward Movement, and Integration,* 3-6.

movement control system is responsible for establishing protocols with host/allied nations concerning use of available transportation assets and infrastructure.[82]

Staging

Staging is the "process of assembling, holding, and organizing arriving personnel and equipment into units and forces, incrementally building combat power and preparing units for onward movement, and providing life support for the personnel until the unit becomes self-sustaining."[83] Not everyone can travel with the equipment as it flows into theater. Unit materiel is segregated, prioritized, and prepared for transport. Basic loads are uploaded and life support is provided. Matching up equipment and personnel is a challenging operation, especially if multiple units are flowing through at the same time. Staging is the largest RSOI function, many factors including geography, mission, etc. play into the conduct of staging operations.[84] The TSC must provide adequate facilities to support these activities, including marshaling areas, maintenance shelters, fuel and ammunitions storage, a test driving loop, range areas, etc.[85] A typical staging plan includes the following functions: communication; command and control; force tracking; life support; arming; fueling; fixing; security; prep for onward movement to name a few. These activities occur at multiple sites in controlled areas called Theater Staging Bases (TSBs). These are required because space limitations normally preclude the reformation of combat units at the ports of debarkation. TSBs should be located in areas convenient to both the SPOD and APOD, with good lines of communication back to the ports of

[82] U. S. Department of Defense, *Joint Publication 4-0, Doctrine for Logistics Support of Joint Operations* (Washington, DC: April 6, 2000), II-6 – II-9.
[83] U.S. Army, *Field Manual 100-17-3 Reception, Staging, Onward Movement, and Integration*, 4-1.
[84] Ibid., 4-6.

debarkation and forward to the designated TAAs. In addition, the TSB should have sufficient space to accommodate the largest force scheduled to stage through it, together with facilities for vehicle marshaling, materiel handling, equipment maintenance and calibration, and weapons training. The TSB requires all of these to fulfill its function of converting personnel and equipment into mission-ready combat units. Regardless of the time actually spent in the TSB, troops require support while there.[86] This may require the sequencing of engineer, water purification, and medical units early in the deployment flow. Force tracking provides situational awareness on combat-ready units within the theater. Staging operations must therefore include the communications, data processing equipment, and personnel assets to provide and manage force-tracking data. Unit commanders play a large role in force tracking and planning for onward movement.[87]

Onward Movement

Onward movement is the "process of moving units and accompanying materiel from reception facilities and staging areas to T[actical] A[ssembly] A[reas] or other theater destinations, moving arriving non-unit personnel to gaining commands, and moving arriving sustainment materiel from reception facilities to distribution sites."[88] Onward movement relies heavily on the transportation infrastructure, modes available, routes, host nation support, and transportation support like heavy equipment transports (HETs). Movement control is extremely important during this phase. Efficient movement control enables the commander to redirect forces and rapidly overcome

[85] U. S. Department of Defense, *Joint Publication 4-01.8 Joint Tactics, Techniques, and Procedures for Joint, Reception, Staging, Onward Movement, and Integration*, II-6.
[86] U.S. Army, *Field Manual 100-17-3 Reception, Staging, Onward Movement, and Integration*, 4-5 – 4-6.
[87] Ibid., 4-4 – 4-6.
[88] Ibid., 4-1.

disruptions in the LOC. "Inadequate control of movement, whether into or within the theater results in waste, reduced logistic efficiency and consequently, a loss of potential power."[89] While moving to the integration site or tactical assembly area (TAA), the convoys are vulnerable to enemy interdiction.[90]

Korea offers an excellent illustration of the onward movement challenge. It is approximately 180 miles from the major fixed port facility at Pusan to TAAs around Seoul. The primary route from Pusan to Seoul has 176 bridges and eleven tunnels.[91] Most of those bridges and tunnels do not have an alternate path around them. Planners must ensure the security of all LOCs against what has become a multi-dimensional threat. Enemy special operations forces represent yet another threat to onward movement.[92] They represent a serious threat to the convoys, and the transportation infrastructure. FM 100-17-3 relates an excellent story to show the vulnerability during this phase:

> During the 1973 Arab-Israeli War, an Israeli commando team of 12 men and a jeep-mounted recoilless rifle (RCL) were inserted at 2400 hours along the Baghdad-Damascus Highway about 100 km north of Damascus, near a bridge crossing a steep ravine. The bridge was rigged for demolition, ambush positions were laid out covering the bridge approaches, with hasty minefields covering the ambush positions. At dawn, an Iraqi tank brigade, moving on transporters, began crossing the bridge. After several vehicles had crossed, the bridge was destroyed, and the exits from the bridge approaches interdicted by the RCL, thus isolating the convoy on the road. The immobilized vehicles were then destroyed by aircraft on-call, and by commandos using satchel charges. In this manner, approximately 50 Iraqi tanks were destroyed, and the road remained closed for several days (during a critical period in the war), due to fear of additional ambushes.

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[89] U. S. Department of Defense, *Joint Publication 4-0,Doctrine for Logistics Support of Joint Operations*, II-8.
[90] U.S. Army, *Field Manual 100-17-3 Reception, Staging, Onward Movement, and Integration*, 5-3 – 5-4.
[91] Brown, "U.S. Army Transportation Corps,".. LTG Brown also discussed RSOI in Korea and its importance to force closure.
[92] Especially true for medium weight forces. They move with limited assets to assist in the onward movement.

Force locations are required in order to maintain situation awareness. These locations are of particular importance to the various battlefield distribution centers to ensure timely and accurate delivery of sustainment cargo and replacement personnel. The total transportation infrastructure - modes, routes, control factors, hosts nation assistance, and specialized handling requirements – must be coordinated to maximize the speed of movement. [94]

Integration

The final step is the integration or more specifically, the "synchronized transfer of authority over units and forces to a designated component or functional commander for employment in the theater of operations."[95] Three major activities must happen in the TAA to ensure the unit becomes operational and mission-ready. First, the configured unit establishes internal command and control. Second, it establishes communications with higher headquarters and finally it is absorbed into the joint force structure. The assimilation of the unit into the joint force marks the end of the battle hand over. Successful integration requires planning and implementation based on the following information: unit location, status, projected time to reassemble into tactical units. A final point about this phase, it is during integration where units receive their higher headquarters supporting units. For example, at the integration point, a division will receive the corps artillery units and support units

[93] U.S. Army, *Field Manual 100-17-3 Reception, Staging, Onward Movement, and Integration*, 5-3.
[94] Ibid., 5-3 – 5-4.
[95] Ibid., 6-1.

The four-part strategy combined with opportunities (training, exercises or operations) produced a very effective and efficient system of reconfiguring units in theater. In a rapidly changing strategic environment with dramatic technological advances, CSS doctrine must be flexible, and support personnel must be willing and able to apply evolving principles and techniques to varying dynamic situations.

IBCT Expectations

"The Vision establishes an explicit requirement for the Army to become more strategically responsive…the IBCT represents the vanguard of that future force."[96] Small-scale contingencies (SSC) are more likely to occur given the spreading of involvement by regional and global powers. SSCs can escalate quickly, "presenting a set of conditions that require combat operations or the presence of combat forces to stabilize and contain the crisis. However, stabilization tends to be linked to the speed with which effective combat forces are able to act; the slower the response, the more difficult it normally will be to defuse the crisis quickly."[97]

The IBCT serves as a "***full spectrum, early entry combat force***," air deployable worldwide within 96-hours.[98] The clock begins when the first aircraft takes off and ends with the arrival of the last aircraft in theater. Employment upon arrival is the required capability of the IBCT.[99] This employment requirement dictates that the unit must deploy in a combat configuration. By deploying the IBCT in that manner, many assume that RSOI is no longer necessary. Additionally, to assist in this speed-based pipeline,

[96] U.S. Army, *Interim Brigade Combat Team (IBCT) Organizational and Operational Concept (Final Draft)*, Chapter 1, 1.
[97] Ibid., Chapter 1, 2.
[98] Ibid., Chapter 1, 7.

sustainment packages will be built in CONUS and deployed into theater, combat configured. This would theoretically eliminate the need for handling of any cargo at nodes between the origin and the using unit.

The IBCT contains many new initiatives that effect its deployment, employment, and actions on the battlefield. The target date for full activation with all enablers is 2003. A potential danger is the elimination of positions and force structure before the enablers are filled and functioning. Initiatives that affect the elements of RSOI: effective deployment method; the airborne command and control system; and the in theater arrival concept.

The first initiative is the deployment combat configuration of the units. What does combat configuration mean? Does it mean ready for combat? Units in CONUS are not ready for combat on a daily basis. Units in CONUS operate daily within a peacetime configuration. The difference between the two is significant. The IBCT plan for combat configuration covers the gamut of requirements; vehicles, sustainment, and personnel. When the IBCT deploys, radios in vehicles are operational, installed with all the necessary frequencies and encrypting information. The unit deploys with three days of supply (DOS) of food, water, and ammunition.[100] Fuel is a major issue for the IBCT. Today, vehicles deploy with one-half to three-quarters tank of fuel, but never full. Chapter 10, IBCT Organizational and Operational Concept (O&O) states, "upon arrival into theater the brigade is dependent on external fuel sources." The three-quarters tank will last approximately forty-eight hours.[101] The soldiers in the unit are trained and

[99] Ibid.
[100] Ibid., Chapter 10, 14.
[101] Ibid., Chapter 10, 17.

qualified on their weapon system.[102] The expectation is that IBCTs train for a variety of missions so that when the alert is called they are ready to deploy to the fight and win. The soldiers arrive with an understanding of the mission and have a high degree of situational understanding.

The second initiative is the airborne en route mission planning and rehearsal system (EMPRS) developed for the U.S. Army Missile and Space Command by Defense Advance Research Projects Agency (DARPA).[103] DARPA tested this system recently with the 82nd Infantry Division (Airborne) as they prepared for an exercise. The intent of the system is to allow deploying forces to continue to plan and receive situational awareness updates of the enemy and friendly forces on the ground, while en route to an area of operations. The system links the deploying elements with higher headquarters and facilitates the immediate employment upon arrival. This system is several years away but its initial tests are very positive.[104]

In most situations, the IBCT conducts rapid operational movements to achieve positional advantage. Highly accurate situational understanding enables "rapid, precision maneuver to avoid enemy strengths, to attack from unexpected directions, to achieve surprise, or to fix the enemy with one portion of the IBCT while mounting a precise, deliberate attack on the enemy's flanks or rear."[105] When fielded, the IBCT constitutes an "important new option for warfighting CINCs for immediate contingency response…

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[102] The preparedness of the soldiers stems from the ideas put forth in the new FM 3-0 where the deployment philosophy is train, alert, deploy and employ.
[103] U.S. Army Space and Missile Defense Command, *En route Mission Planning and Rehearsal (EMPR)* [Internet] (November 10, 2000 2000, accessed November 10 2000); available from http://www.smdc.army.mil/SpaceICT/SMDBLpart4/sld007.htm.
[104] Armed Forces New Agency, *82nd Airborne Tests New En Route Mission Planning Tool* (Washington, DC: Channel 25, Fort Leavenworth, Kansas, 2000), Television Broadcast.

[and provides] a clear near term improvement in national and theater conventional deterrence, providing national command authorities the capability to place a credible, visible, and flexible combat force on the ground anywhere in the world within 96 hours."[106]

Ultimately many more initiatives affect the way the IBCT trains and fights to win but they have little effect on the RSOI process. The previous chapters have presented a case for the existence of RSOI since the U.S.'s first major overseas operation, and outlined the history of the rapid deployment forces. These chapters have also identified where RSOI and IBCT stand today. The next chapter will examine the RSOI process as outlined earlier using the innovations of the IBCT to determine the validity of each RSOI element and ultimately conclude if the IBCT innovations facilitate the elimination of RSOI.

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[105] U.S. Army, *Interim Brigade Combat Team (IBCT) Organizational and Operational Concept (Final Draft)*, Chapter 1, 14.
[106] Ibid., Chapter 1, 16.

Chapter 4

"Operations are being compressed by time. …We no longer have a long time"

Lieutenant General John Abizaid[107]
Director, Strategic Plans and Policy,
Joint Chiefs of Staff

Analysis

Initially, the thought of eliminating RSOI is appealing, since abolishing RSOI saves approximately five to seven days in the deployment process. The previous chapter identified the deployment process (see figure 1-1), the RSOI segments (see figure 1-2), the IBCT initiatives (chapter three), and finally the RSOI elements (chapter three) within each segment. This chapter provides the analysis of the elements of RSOI to determine if the innovations of the IBCT can eliminate any or all the requirements. The aim is to use the RSOI tasks identified tasks earlier, as the criteria for analyzing the applicability of RSOI to the IBCT, starting with reception and proceeding through integration. Each sub-section ends with a brief summation of the applicability of that RSOI segment to the IBCT deployment. The chapter concludes with the conclusions and recommendations for the logistics community to consider.

The first extremely critical step is reception, which is broken down into five elements: receive aircraft, offload aircraft, security, life support, and schedule movement. The innovations of the IBCT only elevate the need for life support (potentially) and schedule movement. According to IBCT O&O, Chapter 10, the unit

deploys with three days of supply (DOS) of food, water, ammunition and two DOS of fuel. Therefore, it can provide limited internal life support throughout the deployment. One caveat, if the IBCT provides its own life support during the deployment, then it reduces the amount of sustainment capability it has during the fight. The last element is the scheduling of movement. The IBCT O&O, Chapter 10, states that the IBCT deploys with an organic movement control section. This section is responsible for coordinating the movement of the IBCT and the clearance of all other movements within the IBCT sector. The examination of reception reveals that the IBCT requires at a minimum a force to receive the aircraft, a force to offload and handle their equipment / sustainment stocks, and a force for security.

The next criteria to consider is staging, which is broken into assembling, holding, and organizing arriving personnel and equipment, providing life support, security, schedule movement, preparing units for onward movement, force tracking, and communications. The innovations of the IBCT provide for the limited life support, communications internally and with higher headquarters, scheduling movements, preparation for onward movement, and force tracking. Again, the IBCT deploys with enough life support for at least forty-eight hours afterwards they need external support.

Chapter three of this monograph outlines the life support for the IBCT includes: arm, fix, fuel, and sustain; it requires higher headquarters support for manning and moving. The IBCT is 100% mobile minus the sustainment stocks, therefore the movement of sustainment requires outside assistance. Since the IBCT deploys combat configured with three DOS loaded there is not a requirement to breakdown sustainment

[107] John Grady, *History Shows What Happens When Nations Fail to Adapt to Change* [Internet] (October

stocks and load them on the vehicles. Therefore, the preparation for onward movement is simply the scheduling of the movement, which the movement control section in the S4 can accomplish without outside assistance. The communications backbone and EMPR systems provide the means to communicate with higher headquarters and lower units, continuously updating the situational awareness. It enables the commander to provide reports on the status of the unit and force-tracking information. Staging in the Gulf War was the largest and most time consuming portion of RSOI. Although the IBCT does require some support in the staging element, the innovations enable the IBCT and the RSOI unit to reduce the time and size of staging.

Onward movement consists of only a few functions: movement control, trans-loading equipment, security, life support, and transportation support. Onward movement concerns the movement of the unit to the tactical assembly area. The innovations of the IBCT enable it to accomplish all these tasks with the possible exception of life support. The movement control section accomplishes the task of coordinating the movement forward, however, the role of movement control becomes more difficult as the unit leaves the protected areas of the reception and staging areas. The flow of refugees, displaced civilians, and other operations may impede the movement of the IBCT. The next task, trans-loading of equipment to vehicles, is unnecessary since the IBCT deploys to the theater completely loaded for combat. Instances where vehicles breakdown or destruction because of enemy action will require trans-loading, but that is the exception not the rule. Guerilla and special operating forces are the major threats to convoys. The situational awareness will help to reduce the effects of the threat by providing

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18, 2000, accessed Febrauary 2, 2001); available from www.ausa.org.

information to prepare certain areas with air coverage, fire support, or just by avoiding the area completely. Security is paramount in this phase. Onward movement may take days to complete depending on the AO. For example, planners in Korea expect the movement from the Pusan port to the tactical assembly area to take several days. In that case, the RSOI commander must provide life support during the movement at several nodes, i.e. rest stops, rest overnight locations, and fuel stops. Similar to the life support provided during the Gulf War with the establishment of truck stops along Tapline Road by the TSC.[108] Ideally by having greater flexibility with air deployability, the onward movement will become limited in length and time. The IBCT innovations enable the unit to conduct most of the onward movement tasks using internal assets, except for the life support. Follow-on sustainment will require external support for onward movement.

Integration is the last element of RSOI but is critical to the success of the operation. During this phase, deploying commanders establish internal communications with all their deploying units, establish communications with higher headquarters, complete the acclimation of the soldiers and orient the whole unit with any changes in the plan. The continuous information flow enables a quick and timely stream of information to all elements within the IBCT. The IBCT elements deploy combat configured, meaning the radios are fully functioning upon arrival, providing the ability for updating of the battlefield up and down the chain of command. The Army vision and the IBCT O&O require the IBCT to have the capability to employ upon arrival in the theater. In Vietnam, commanders established an acclimation period, for new arrivals, of several days

[108] Pagonis and Cruikshank, 124.

before sending soldiers into action.[109] Recent operations have shown that soldiers can operate effectively with little acclimation time if properly trained, but it depends on the environmental change. For example, do soldier's from Fort Drum need acclimation time before they conduct operations in Kuwait? The IBCT concept pushes the envelope to zero acclimation time before employment. The integration point also serves potentially as the last opportunity to conduct a rehearsal, update the situation, and prepare for action. The IBCT orients, updates the situation, and conducts virtual rehearsals by using EMPRS and continuous communications to update the plan and situational awareness en route to the theater -- ensuring the IBCT is absorbed within the higher force upon arrival. The analysis shows that elimination of integration is not possible but its execution happens during the en route deployment phase rather than in the theater.

Conclusions

Is RSOI necessary for the deployment of the IBCT? The analysis showed that despite all the technological advances, RSOI is a necessary element of the deployment process. RSOI is essential to success on the battlefield of today and tomorrow. Historically, RSOI played a large role in the success of operations and if a commander chooses to ignore the process, he does so at his own peril. The concept of reconfiguring forces from transportable pieces into combat capable units is indispensable, at least until the U.S. purchases enough strategic transportation assets to deploy every unit combat configured with ammunition, radios, personnel, and sustainment.

Intuitively the simple answer at the outset of the analysis was that the RSOI process was a "dinosaur" to the IBCT, especially with its latest innovations. The

[109] Ronald H. Spector, *After Tet: The Bloodiest Year in Vietnam* (New York: The Free Press, 1993), 172.

technological (EMPRS) and conceptual (deploy combat ready) innovations while a step in the right direction, are not revolutionary enough to eliminate RSOI functions. The analysis clearly shows that while it is simple to wish away functions of the deployment system, to save time, they are hard to remove.

The fundamental elements of RSOI are not flawed or out-of-date. Every function, element, and task of RSOI is still necessary, just who accomplishes them varies with the IBCT innovations. The IBCT cannot internally accomplish the functions of reception. Staging, the largest element of RSOI, in both size and time, undergoes the biggest change. The IBCT "combat configured" deployment concept reduces the amount of time to reconfigure and link-up personnel with equipment. Reducing time during this phase will enhance the future sustainment (life support) operations. The continuous connectivity throughout the deployment process enables staging and provides the force commander with necessary information. Despite the big changes, the IBCT innovations still do not eliminate any element of the staging function.

Beginning with onward movement, the innovations enable the IBCT to use built-in assets, with the exception of life support that depends on the time needed for the onward movement. The en route mission planning tools and communications capabilities change integration from a spot on the ground to a constant and continuous operation.

One last caveat, IBCT innovations are taken in their "best case" capability, reality may diminish the effectiveness of these improvements and change the RSOI balance.

Recommendations

> *Sooner or later something fundamental in your…world will change.*

Andrew Grove[110]

Specific concepts contained within the analysis in the previous sections affect the RSOI process in a unique way. The impact of the emerging concepts of the IBCT provokes a shift in how the logistics community views the current RSOI process. It is important to note that the current RSOI process is not fundamentally flawed or out-dated. New technologies and theoretical ideas must force leaders to look at the RSOI process from a new perspective.

The principles of RSOI are solid. They focus on receiving the equipment and configuring a combat ready force in the most effective and efficient manner using the available resources. The logistics community must always look for a better way to accomplish this task – with anticipation of the next milestone to make the process even better and faster. Every improvement represents a refining process to better support the operational commander's plan.

The process of investigation uncovers new ideas or resurfaces old ones. Discussion and examination is the only method of determining the validity of the thought or idea. Leaders within the logistics community must continue to look for methods out of the ordinary. These solutions can potentially become the revolutionary ideas for taking RSOI to the next level. For example, the USAF after Somalia design and staffed a "Global Reach" laydown structure to support the deployment of their air forces anywhere in the world. These teams are the first to deploy to set the foundation for success, from SWA to Rwanda to East Timor. The U.S. Army developed forces for the RSOI process,

[110] Andrew S. Grove, *Only the Paranoid Survive : How to Exploit the Crisis Points That Challenge Every Company and Career*, 1st ed. (New York: Currency Doubleday, 1996), 1.

however, those forces are constantly fighting for space at the front of the strategic lift flow to open the theater for army forces. Should the U.S. combine the Global Reach Laydown forces with the port opening and RSOI forces to form a joint Global Reach force? The comment "we've always done it this way" should never become the standard for RSOI.

Typically, the logistics community views the RSOI process as a linear or sequential process. A unit first must go through reception, then on to staging. After a time delay, the unit then conducts onward movement to reach the final stop in the process, integration. The IBCT presents a dilemma to this linear thought process. The analysis showed that as the U.S. Army develops and implements innovations into the force, RSOI could become a simultaneous operation. Can the Army modify RSOI to reflect the innovations in the IBCT doctrine, enablers, and force structure? RSOI is not a static function. Over the years, it has shown its ability to adjust to the varying types of operations and missions. RSOI continues to develop over time as technological improvements are implemented. Limiting RSOI execution to the theater of operation is narrow-minded and ultimately leads RSOI to being irrelevant. With each innovation, the ability to conduct RSOI functions before and during deployment becomes more feasible, however, they still do not eliminate the need for the RSOI process to build combat power.

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